What is claimed is:

491
493 1. A gas discharge tube comprising a plurality of light-emitting portions that are provided outside of the tube and comprise at least two discharge electrodes, and an electron emission film formed on the entire inner wall of the tube for improving discharge characteristics.

2. The gas discharge tube as claimed in Claim 1, wherein the electron emission film is made of magnesium oxide.

3. The gas discharge tube as claimed in Claim 1, wherein the discharge electrodes comprise one common electrode extending in a longitudinal direction of the tube and a plurality of separate electrodes that oppose to the common electrode with respect to the tube and are arranged at spaced intervals in the longitudinal direction of the tube, and the light-emitting portions are formed in the tube at positions where the separate electrodes and the common electrode oppose to each other.

4. A method for manufacturing a gas discharge tube as claimed in any one of Claims 1 to 3, in which the electron emission film is produced by the steps of:

injecting a coating solution at a predetermined amount from one opening of a tube having an opening in each of both ends thereof, said coating solution containing an organic metal compound that turns into an inorganic metal compound having an electron emission

ability by a burning process;

forming a coating film on the entire inner wall of the tube by causing the coating solution to go along the inner wall of the tube while entirely sealing the opening of the tube; and

burning the coating film to form an electron emission film on the entire inner wall of the tube.

5. The method as claimed in Claim 4, wherein the organic metal compound comprises magnesium hexanoate and the electron emission film comprises magnesium oxide film.

6. The method as claimed in Claim 4, further locally solidifying the coating film formed in the vicinity of a tailing end of the coating solution going along the inner wall of the tube.

7. The method as claimed in Claim 6, wherein the local solidification of the coating film comprises drying the coating film by moving a heat source utilizing visible light or an infrared ray and/or a microwave with the movement of the coating solution and irradiating the coating film with the visible light or infrared ray and/or microwave.

8. The method as claimed in Claim 6, wherein the local solidification of the coating film comprises fixing the metal compound in the coating film to the inner wall of the tube by moving a ultraviolet ray irradiating device with the movement of the coating solution and

irradiating the coating film with the ultraviolet ray.

9. The method as claimed in Claim 4, wherein one or more forces of centrifugal force, gas pressure and liquid pressure are used for causing the coating solution to go along the tube.

10. The method as claimed in Claim 4, further drying the coating film by sending blast into the tube alternately from both ends of the tube.

11. The method as claimed in Claim 4, further subjecting the resultant tube providing the electron emission film on its entire inner wall to the step of forming at least two discharge electrodes outside of the tube.